

PUBLICATIONS

-1- Refereed journals

1. T.Maquart, R.Noël, G.Courbebaisse, L.Navarro, *Towards a Lattice Boltzmann Method for Solids - Application to Static Equilibrium of Isotropic Materials*, Applied Sciences, 12(9):4627, 2022.
2. Y.Chen, G.Courbebaisse, J.Yu, D.Lu, F.Ge, *A Method for Giant Aneurysm Segmentation Using Euler's Elastica*, J. of Biomedical Signal Processing and Control, Elsevier Ed, Vol. 62, 2020.
3. R.Noël, L.Navarro & Guy Courbebaisse, *Lattice Boltzmann Method for Heterogeneous Multi-Class Traffic Flow*, Journal of Computational and Theoretical Transport, 2020.
4. Y.Chen, D.Lu, G.Courbebaisse, *A parallel image registration algorithm based on Lattice Boltzmann model*, Information J., 11(1), 1, 2020.
5. Y. Zhang, Y. Wang, E. Kao, L. Flórez-Valencia and G.Courbebaisse, *Towards optimal flow diverter porosity for the treatment of intracranial aneurysm*, Journal of biomechanics, Vol. 82, 20-27, 2019.
6. R.Noël, L.Navarro, G.Courbebaisse, *Lattice Boltzmann Method for Heterogeneous Multi-class Traffic Flow*, arXiv: Physics and Society - arXiv: 1809.11106, 2018.
7. B. Chopard, D. R. de Sousa, J. Latt, F. Dubois, C. Yourassowsky, P. Van Antwerpen, O. Eker, L. Vanhamme, D. Perez-Morga, G. Courbebaisse et al., *A physical description of the adhesion and aggregation of platelets*, Royal Society Open Science, no. 4(4), 170219, 2017.
8. Y.Wang, L.Navarro, Y.Zhang, E.Kao, Y. Zhu, G. Courbebaisse, *Application of a LBGK-Based 4D Image Segmentation Method to a 4D-CTA Acquisition of an Intracranial Aneurysm Phantom*, Computing in Science and Engineering, CiSE, IEEE Computer Society, no. 19 (4), 56-67, 2017.
9. Y.Wang, Y.Zhang, L.Navarro, O.Faruk Eker, R.A.Corredor Jerez, Y.Chen, Y.Zhu, and G.Courbebaisse, *Multilevel segmentation of intracranial aneurysms in CT angiography images*, Medical Physics, 43, 1777, 2016.
10. K.J.Chodzyński, O.F.Eker, A.E.Vanrossomme, D.R.de Sousa, G.Coussement, L.Vanhamme, F.Dubois, A.Bonafé, B.Chopard, G.Courbebaisse, K.Zouaoui Boudjeltia, *Does the gravity orientation of saccular aneurysms influence hemodynamics? An experimental study with and without flow diverter stent*, Journal of Biomechanics, vol. 49, p. 3808-3814, 2016.
11. O.Malaspinas, A.Turjman, D.Ribeiro de Sousa, G.Garcia-Cardena, M.Raes, T.Nguyen P.-T., Y.Zhang, G.Courbebaisse, C.Lelubre, K.Zouaoui Boudjeltia, B.Chopard, *A spatio-temporal model for spontaneous thrombus formation in cerebral aneurysms*, J. of Theoretical Biology vol. 394, pp. 68-76, 2016.
12. K.Zouaoui Boudjeltia, D.Ribeiro de Sousa, P.Uzureau, C.Yourassowsky, D.Perez-Morga, G.Courbebaisse, B.Chopard, and F.Dubois, *Quantitative analysis of platelets aggregates in 3D by Digital Holographic Microscopy*, Biomedical Optics Express, American Society of Optics, vol. 6(9), pp. 3556-3563, 2015.
13. K.J.Chodzyski, K.Zouaoui Boudjeltia, J.Lalmand, A.Aminian, L.Vanhamme, D.Ribeiro de Sousa, S.Gremmo, L.Bricteux, C.Renotte, G.Courbebaisse, et al., *An in vitro test bench reproducing coronary blood flow signals*, BioMedical Engineering OnLine (JCR: BIOMED ENG ONLINE), vol. 14(1):77, 26 p., 2015.
14. O.Eker, K.Zouaoui Boudjeltia, R.A.Corredor Jerez, E.Lebars, M.Sanchez, A.Bonafé, V.Costalal, and G.Courbebaisse, *MR derived volumetric flow rate waveforms of internal carotid artery in patients treated for unruptured intracranial aneurysms by flow diversion technique*, Journal of Cerebral Blood Flow & Metabolism, 2015.
15. D.Ribeiro de Sousa, C.Vallecilla, K.J.Chodzyski, R.A.Corredor Jerez, O.Malaspinas, O.Eker, R.Ouared, L.Vanhamme, A.Legrand, B.Chopard, G.Courbebaisse and K.Zouaoui Boudjeltia, *Determination of a shear rate threshold for thrombus formation in intracranial aneurysms*, J. of NeuroInterventional Surgery, 2015.

16. A.Vanrossomme, O.Eker, J.P.Thiran, G.Courbebaisse, K.Zouaoui Boudjeltia, Intracranial Aneurysms: Wall Motion Analysis for Prediction of Rupture, *American Journal of Neuroradiology*, vol.36, pp.1796-1802, 2015.
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22. Y.Wang, Y.M.Zhu, G.Courbebaisse, and L.Diing, Detection and Extraction of Feature Points in Robot Vision Using Lattice Boltzmann Method, *Science Technology and Engineering*, vol. 11(32), pp. 8045-8048, 2011.
23. G.Courbebaisse, R.Bouffanais, L.Navarro, E.Leriche, and M.O.Deville, Time-Scale *joint representation of DNS and LES numerical data*, *Computers & Fluids*, vol.43(1), pp.38-45, 2011.
24. S. Balocco, O.Basset, G.Courbebaisse, E.Boni, A.Frangi, P.Tortoli, C.Cachard, Estimation of the viscoelastic properties of vessel walls using a computational model and Doppler ultrasound, *Physics in Medicine and Biology Journal*, IOP SCIENCE, vol. 55, p. 3557-3575, 2010.
25. L.Navarro, G.Courbebaisse and J.C.Pinoli, *Continuous frequency and phase spectrograms: A study of their 2D and 3D capabilities – Application to musical signal analysis*, *Journal of Zhejiang University Science A*, 9(2), pp.199-206, 2008.
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30. G.Courbebaisse, *Numerical simulation of injection moulding process and the pre-modelling concept*, *Computational Material Sciences Journal*, Elsevier Ed., Vol. 34, Issue 4, pp.397-405, 2005.
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41. G.Courbebaisse, *Time-Frequency distribution and image processing - An application to the combustion field*, Acta Stereologica Journal, N°13/1, pp.221-226, 1994.

-2- Book chapters

1. L.Navarro, G.Courbebaisse, and M.Jourlin, *Logarithmic Wavelets*, Advances in Imaging and Electron Physics (JCR: ADV IMAG ELECT PHYS), Academic Press, vol. 183, pp.41-98, doi:10.1016/B978-0-12-800265-0.00002-3, 2014.
2. G.Courbebaisse, Livre Blanc de l'optique française, Chapitre: *Procédés de fabrication – Composants optiques et polymères*, Supervisor: Prof. JP.Goure (TSI UMR CNRS 5516), 25 pg. 2004.

-3- Peer reviewed conference proceedings:

1. R.Noël, F.Ge, L.Navarro, G.Courbebaisse, *Lattice Boltzmann method for mathematical morphology: application to porous media*, SPIE, Proceedings Vol. 11785: Multimodal Sensing and Artificial Intelligence: Technologies and Applications II, Ettore Stella, Editor(s), June 2021.
2. F.Ge and G.Courbebaisse, *A Novel Parallel Lattice Boltzmann Method on Medical Image Segmentation*, IEEE EMBS BHI 2019, USA, Chicago, May 2019.
3. R.Noël, L.Navarro, G.Courbebaisse, *Lattice Boltzmann Method & Mathematical Morphology*, GRETSI 2019, Lille (France), September 2019.
4. Y.Chen, G.Courbebaisse, D.Lu, *Fast Image Registration by LB Method*, 11th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI), 1-4, 2018.
5. F.Ge, R.Noël, L.Navarro, G.Courbebaisse, *Volume Rendering and Lattice-Boltzmann Method*, GRETSI 2017, ID168, Juan Les Pins (France), September 2017.
6. R Noël, F Ge, Y Zhang, L Navarro, G Courbebaisse, *Lattice Boltzmann method for modelling of biological phenomena*, Signal Processing Conference (EUSIPCO), 25th European, Ed. IEEE, 2654-2658, August 2017.

7. L.Navarro, G.Courbebaisse, and Ch.Roux, *Une redéfinition des conditions aux limites de la méthode Lattice Boltzmann pour le débruitage d'images*, GRETSI 2015, no : 237, Lyon (France), September 2015.
8. L.Navarro, M.Jourlin, and G.Courbebaisse, *Logarithmic Multiresolution Wavelet Transform*, ICIP 2015, IEEE International Conference on Image Processing, Quebec City (Canada), September 2015.
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11. Y.Zhang, O.Malaspinas, J.Latt, B.Chopard, and G.Courbebaisse, *Study of the correlation between the porosity configuration and the flow diverter efficiency using lattice Boltzmann method*, DSFD 2015, 24th International Conference on Discrete Simulation of Fluid Dynamics, Edinburgh (Scotland), July 2015.
12. F.Galluzzo, N.Speciale, G.Courbebaisse, and O.Bernard, *A rigorous and efficient GPU implementation of level-set sparse field algorithm*, IEEE International Conference on Image Processing, Orlando (Florida), pp.1705-1708 , September 2012.
13. L.Flórez-Valencia, E.E.Dávila Serrano, J.G. Riveros Reyes, O.Bernard, J.Latt, O.Malaspinas, B.Chopard, G.Courbebaisse, and M.Orkisz, *Virtual deployment of pipeline flow diverters in cerebral vessels with aneurysms to understand thrombosis*, MICCAI-Workshop on Computer Assisted Stenting, Nice (France), pp.49-56 (electronic proc.), October 2012.
14. Y.Wang, G.Courbebaisse, and Y.M.Zhu, *Segmentation of Giant Cerebral Aneurysm Using a Multilevel Object Detection Scheme Based on Lattice Boltzmann Method*, IEEE International Conference on Signal Processing, Communications and Computing, vol. 3799, XI'AN (China), IEEE, September 2011.
15. G.Courbebaisse, R.Bouffanais, L.Navarro and M.O.Deville, *Multiscale comparison of the turbulent DNS data and LES data of the lid-driven cavity flow*, High Accuracy Flow Simulations, EPFL Lausanne (Switzerland), October 2010.
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